

Notice of Allowability

Application No.

09/577,085

Examiner

Li B. Zhen

Applicant(s)

CLARK ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to telephone interview on 12/29/2004.
2. ☒ The allowed claim(s) is/are 1,4-9,12-17,20,21,24 and 27-29, renumbered as claims 1-19.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 12/29/2004.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


MEN-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Robert Brill and Mr. Joseph Hanasz on December 29, 2004.

The application has been amended as follows:

- a. Cancel claims 2, 3, 10, 11, 18, 19, 22 and 23;
 - b. Claim 4, line 1, replace "method of claim 2" with --method of claim 1--;
 - c. Claim 12, line 1, replace "method of claim 10" with --method of claim 9--;
- and
- d. Replace claims 1, 9, 17, 21 and 27 – 29 with the following:

1. A method of shared flow control of data between a transport layer interface provider and at least one application comprising the steps of:

receiving from the at least one application a stream of data having a first aggregate downstream data rate, wherein the stream of data is made up of a plurality of streams of data;

measuring the first aggregate downstream data rate of the stream of data;

transmitting the stream of data to the transport layer interface provider;

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deciding, independent of the at least one application and the transport layer interface provider, to throttle the stream of data; and

throttling the stream of data from the first aggregate downstream data rate to a second aggregate downstream data rate;

wherein the step of measuring further comprises the step of counting with an aggregate downstream counter an amount of received data from the stream of data;

wherein the step of counting further comprises the steps of incrementing the aggregate downstream counter by the amount of received data, and decrementing the aggregate downstream counter by a predetermined amount at a predetermined interval of time.

9. A method of shared flow control of data between a transport layer interface provider and at least one application comprising the steps of:

receiving from the transport layer interface provider a stream of data having a first aggregate upstream data rate, wherein the stream of data is made up of a plurality of streams of data;

measuring the first aggregate upstream data rate of the stream of data;

transmitting the stream of data to the at least one application;

deciding, independent of the at least one application and the transport layer interface provider, to throttle the stream of data; and

throttling the stream of data from the first aggregate upstream data rate to a second aggregate upstream data rate;

wherein the step of measuring further comprises the step of counting with an aggregate upstream counter an amount of received data from the stream of data;

wherein the step of counting further comprises the steps of incrementing the aggregate upstream counter by the amount of received data, and decrementing the aggregate upstream counter by a predetermined amount at a predetermined interval of time.

17. A computer-readable signal bearing medium having computer-readable program code means embodied therein for shared data flow control of data, the computer-readable program code, comprising:

means having computer-readable program code for receiving from at least one application a stream of data having a first aggregate downstream data rate, wherein the stream of data is made up of a plurality of streams of data,

means having computer-readable program code for measuring the first aggregate downstream data rate of the stream of data,

means having computer-readable program code for transmitting the stream of data to a transport layer interface provider,

means having computer-readable program code for deciding, independent of the at least one application and the transport layer interface provider, to throttle the stream of data,

means having computer-readable program code for throttling the stream of data from the first aggregate downstream data rate to a second aggregate downstream data rate,

means having computer-readable program code for counting with an aggregate downstream counter an amount of received data from the stream of data, and

means having computer-readable program code for incrementing the aggregate downstream counter by the amount of received data, and means having computer-readable program code for decrementing the aggregate downstream counter by a predetermined amount at a predetermined interval of time.

21. A computer-readable signal bearing medium having computer-readable program code means embodied therein for shared data flow control of data, the computer-readable program code, comprising:

means having computer-readable program code for receiving from a transport layer interface provider a stream of data having a first aggregate upstream data rate, wherein the stream of data is made up of a plurality of streams of data,

means having computer-readable program code for measuring the first aggregate upstream data rate of the stream of data,

means having computer-readable program code for transmitting the stream of data to at least one application,

means having computer-readable program code for deciding, independent of the at least one application and the transport layer interface provider, to throttle the stream of data,

means having computer-readable program code for throttling the stream of data from the first aggregate upstream data rate to a second aggregate upstream data rate,

means having computer-readable program code for counting with an aggregate upstream counter an amount of received data from the stream of data, and

means having computer-readable program code for incrementing the aggregate upstream counter by the amount of received data, and means having computer-readable program code for decrementing the aggregate upstream counter by a predetermined amount at a predetermined interval of time.

27. A method of shared flow control of data streams, flowing in both upstream and downstream directions, between a transport layer interface provider and at least one application, comprising the steps of:

passing a plurality of data streams through a flow control module that is located between the at least one application and the transport layer interface provider, an aggregate data stream being formed by the plurality of data streams;

calculating, in the flow control module that has upstream and downstream aggregate counters, an aggregate data rate for the aggregate data stream from the plurality of data streams in a respective one of the upstream and downstream directions;

comparing, in the flow control module that has a comparator, at least one of the upstream and downstream aggregate counters to the aggregate data rate threshold to determine if the aggregate data rate threshold has been exceeded by the aggregate data rate of the aggregate data stream;

wherein the flow control module is independent of the at least one application and the transport layer interface provider; and

throttling, if the aggregate data rate threshold has been exceeded by the aggregate data rate of the aggregate data stream, all of the data streams in the plurality of data streams from the aggregate data rate to another aggregate data rate.

28. The method of claim 1, wherein the method further comprises:

calculating, in a flow control module that has upstream and downstream individual counters, a respective individual data rate for each data stream in the plurality of data streams;

comparing, in the flow control module, at least one of the upstream and downstream individual counters to the respective individual data rate threshold to determine if the respective individual data rate threshold has been exceeded by the respective individual data rate of a respective data stream of the plurality of data streams; and

throttling, if the respective individual data rate threshold has been exceeded by the respective individual data rate, the respective individual data stream from the respective individual data rate to a further individual data rate.

29. A method of shared flow control of data streams, flowing in both upstream and downstream directions, between a transport layer interface provider and at least one application, comprising the steps of:

passing a plurality of data streams through a flow control module that is located between the at least one application and the transport layer interface provider, an aggregate data stream being formed by the plurality of data streams;

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calculating, in the flow control module that has upstream and downstream aggregate counters, an aggregate data rate for the aggregate data stream from the plurality of data streams in a respective one of the upstream and downstream directions;

calculating, in the flow control module that has upstream and downstream individual counters, a respective individual data rate for each data stream in the plurality of data streams;

comparing, in the flow control module that has a comparator, at least one of the upstream and downstream aggregate counters to the aggregate data rate threshold to determine if the aggregate data rate threshold has been exceeded by the aggregate data rate of the aggregate data stream;

comparing, in the flow control module, at least one of the upstream and downstream individual counters to the respective individual data rate threshold to determine if the respective individual data rate threshold has been exceeded by the respective individual data rate of a respective data stream of the plurality of data streams;

wherein the flow control module is independent of the at least one application and the transport layer interface provider;

throttling, if the aggregate data rate threshold has been exceeded by the aggregate data rate, all of the data streams in the plurality of data streams from the aggregate data rate to another aggregate data rate; and

throttling, if the respective individual data rate threshold has been exceeded by the respective individual data rate, the respective individual data stream from the respective individual data rate to a further individual data rate;

wherein, when the aggregate data rate threshold is no longer exceeded by the aggregate data rate, then the throttling of the data stream ceases, provided the individual data rate threshold is not exceeded, and

wherein the respective individual data stream is unthrottled once the respective individual data rate for the individual data stream no longer exceeds the individual data rate threshold.

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Conclusion


2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Li B. Zhen
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lbz
January 3, 2005


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